

What is claimed is:

1. An aqueous powder coating dispersion which can be prepared by processing the binder of the powder coating material and/or the crosslinker of the powder coating material or the entire powder coating material by spray drying to give a powder and then preparing an aqueous powder coating dispersion using the spray-dried powder.

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2. An aqueous powder coating dispersion as claimed in claim 1, wherein the powder coating dispersion consists of a solid, pulverulent component A and of an aqueous component B,

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component A being a powder coating material comprising

Aa) at least one binder,

Ab) at least one crosslinking agent,

20 Ac) if desired, one or more further binders other than (Aa) and

Ad) if desired, one or more pigments and/or fillers,

25 Ae) if desired, catalysts, auxiliaries and typical powder coatings additives

and

component B being an aqueous dispersion comprising

- Ba) at least one nonionic thickener and
- Bb) if desired, catalysts and auxiliaries, and
- Bc) if desired, one or more further binders other than (Aa).

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3. An aqueous powder coating dispersion as claimed in claim 1 or 2, wherein spray drying takes place at a product temperature below the glass transition temperature of the binder of the powder coating material.

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4. An aqueous powder coating dispersion as claimed in any of claims 1 to 3, which can be prepared by first preparing an aqueous dispersion of the binder (Aa) to which are then added the crosslinker component (Ab) of the powder coating material, optionally further binder (Ac), optionally pigments and/or fillers (Ad), and optionally catalysts, auxiliaries and additives (Ae), and then the powder coating material is prepared by means of spray drying.

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5. An aqueous powder coating dispersion as claimed in any of claims 1 to 3, wherein a solution of the binder or of the crosslinker in one or more organic solvents, or a melt of the binder or of the crosslinker, is processed to a powder by means of spray drying and then an aqueous powder coating

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dispersion is prepared using the spray-dried powder.

6. An aqueous powder coating dispersion as claimed in  
5 any of claims 1 to 5, wherein the further binder  
is used in the form of an aqueous dispersion.
7. An aqueous powder coating dispersion as claimed in  
any of claims 1 to 6, wherein the further binder  
10 (Ac) and/or (Bc) has a glass transition  
temperature of -30 to +20°C.
8. A process for preparing an aqueous powder coating  
dispersion as claimed in any of claims 1 to 7,  
15 which comprises processing the binder of the  
powder coating material and/or the crosslinker of  
the powder coating material or the entire powder  
coating material to give a powder by spray drying,  
if desired, admixing the other constituents of the  
20 powder coating material, and then dispersing the  
powder coating material in water which may  
comprise further auxiliaries and additives.
9. The process as claimed in claim 8, wherein the  
25 powder coating dispersion is prepared by wet-  
grinding component A with component B.
10. The process as claimed in claim 8, wherein  
component (A) has an average particle size of less

than 15  $\mu\text{m}$ , preferably an average particle size of from 5 to 10  $\mu\text{m}$ , and the powder coating dispersion is prepared by mixing components A and B.

- 5    11.    The use of an aqueous powder coating dispersion as claimed in any of claims 1 to 7 for coating painted and unpainted automobile bodies made of sheet metal and/or plastic.
- 10   12.    Process for producing a multicoat paint system, in which first of all a basecoat is applied, a polymer film is formed from the basecoat, a topcoat is applied to the resulting basecoat film and then the basecoat film is dried together with
- 15   the topcoat film, wherein said topcoat is a powder coating dispersion as claimed in any of claims 1 to 7.